

PURCHASE DESCRIPTION

ANALYZER, LOGIC

4032-F. Rev 2

- 1.0 GENERAL This procurement requires a multichannel analyzer capable of recording and displaying logic signals and data from digital circuitry.
- 2.0 CLASSIFICATION The equipment shall meet the requirements of MIL-PRF-28800F class 3 for Navy shipboard, submarine and shore applications.
- 3.0 OPERATING CHARACTERISTICS The equipment shall be capable of both synchronous and asynchronous time domain and data domain recording of parallel digital signals as specified below. All specifications contained below shall be measured at the probe or lead tip used for connection to the unit under test.
 - 3.1 Time domain A timing format of at least 64 channels shall be recorded and displayed. Horizontal expansion capabilities shall be provided to display a portion of the total memory for more detailed examination. A positionable cursor that identifies recorded data words and time positions shall be provided. The triggering event shall be marked or annotated on the display. Operator assignment of the displayed channel order shall be provided.
 - 3.2 Data domain Display of recorded data in binary, octal, decimal, hexadecimal, and symbolic bases shall be provided.
 - 3.3 Signal inputs The analyzer shall be provided with a minimum of 68 separate signal input channels including probes, pods, cables, and other required accessories.
 - 3.3.1 Data channels: The analyzer shall have a minimum capability of receiving and recording parallel data words of at least 64 bits in the timing and data domains. The 64 bit parallel data word shall be recorded as either one 64 bit word or two 32 bit words.
 - 3.3.2 Trigger channels: The analyzer shall have at least four trigger qualifier input channels.
 - 3.3.3 Clock channels: The analyzer shall have an external clock input and a clock qualifier input channel.
 - 3.3.4 Input probe RC: 20 k Ω minimum shunted by 8 pF or less.
 - 3.3.5 Threshold: Thresholds for TTL and ECL logics shall be provided. The analyzer shall be provided with a variable threshold from -2.0 V or less to at least +5.0 V with ± 0.05 V increments. High and low true logic polarity shall be selectable for each channel.
 - 3.3.6 Maximum input: ± 15 Vdc at least; referenced to ground
 - 3.3.7 Input modes:
 - 3.3.7.1 Sample mode. The detected logic level present on each probe and at each clock transition shall be stored in the sample mode.
 - 3.3.7.2 Minimum pulse. The analyzer shall be able to detect or trigger on a 5 ns or less pulse with a level that changes from less than +0.25 V to any amplitude from +2 V to +5 V and then returns

to less than +0.25 V. Detection shall also be provided for a 5 ns pulse or less with a level that changes from +2 V to + 0.80 or less then returns to +2 V.

- 3.4 State analysis speed 100 MHz minimum on all channels
- 3.5 Timing analysis
 - 3.5.1 Conventional: 250 MHz all channels
- 3.6 External clock DC to at least 100 MHz with selectable positive and negative edge active modes.
- 3.7 Memory depth per channel 64 K samples on all channels
- 3.8 Display The analyzer shall be capable of displaying at least 24 separate channel waveforms simultaneously. The display clarity shall be conformed with the requirements in MIL-PRF-28800F.
- 3.9 Remote control The equipment shall be provided with IEEE-488 interface and 10 BaseT Ethernet capabilities for remote control.
- 3.10 Test result management The analyzer shall provide the capability to store test results in nonvolatile memory. The equipment shall also provide the capability to print stored result on a printer.
- 4.0 GENERAL REQUIREMENTS
- 4.1 Temperature:
 - 4.1.1 Operating: 5°C to 50°C
 - 4.1.2 Non-operating: -20°C to 60°C
- 4.2 Power source MIL-PRF-28800F nominal power sources are required. The analyzer and all of the required accessories shall draw power from one power supply cord.
- 4.3 Accessories The analyzer shall be supplied with all probes, pods, cables, adapters, and any other accessories necessary to attach to the system under test for full use of the analyzer.
- 4.4 Accessories stowage The analyzer shall be supplied with a case that has provisions for the stowage of accessories.
- 4.5 Technical manual Technical manuals shall be conformed with standard MIL-PRF-28800F. A Use and Installation manual (Operator's Manual) shall be provided separately. Maintenance and Servicing manual shall be provided with all three levels of maintenance; unit operational verification, module level, and component level. The technical manuals shall be provided in both printed and electronic formats. The printed format shall be otherwise normally provided. The electronic format shall consist of the installation programs for the latest version of Adobe Acrobat for all computer platforms for which Acrobat is available and the technical manual in an electronic form that is readable through use of the Adobe Acrobat application.
- 4.6 Lithium Batteries Per MIL-PRF-28800F, lithium batteries are prohibited without prior authorization. A request for approval for the use of lithium batteries, including those

encapsulated in integrated circuits, shall be submitted to the procuring activity at the time of submission of proposals. Approval shall apply only to the specific model proposed.

- 4.7 Calibration Interval The calibration interval shall be 12 months minimum as in accordance with MIL-PRF-28800F.
- 4.8 Year 2000 Compliance The manufacturer shall certify that the equipment is not susceptible to malfunction as a result of date/time functions associated with the calendar year 2000 or later.
- 4.9 Weight The analyzer and accessories, excludes manuals and transit cases, shall have a maximum weight of 20.5 kg (45 lbs).
- 4.10 Optional Transit Case The analyzer shall be supplied with a hard transit case as a line item option. The hard transit case shall have provisions for stowage of the analyzer, the accessory case, and at least the Operator's manual. The transit case shall comply with the requirements of the MIL-PRF-28800F performance specification.